

## COMMON BIRDS OF ANDAMAN ISLANDS WITH SPECIAL REFERENCE TO INTRODUCED BIRDS

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We surveyed the common birds on eight human inhabited islands of the Andaman Island group, and identified 15 species as the most common bird species on the basis of abundance and extent of distribution. Of these, the introduced species – House Sparrow *Passer domesticus* (19.8% abundance) and Common Myna *Acridotheres tristis* (9.8% abundance) – were the most abundant species, and were distributed in human associated habitats. Out of 188 transects walked, the White-bellied Swiftlet *Collocalia esculenta* and Red-whiskered Bulbul *Pycnonotus jocosus* were recorded in more than 100 transects.

**Key words:** common birds, introduced birds, Andaman Islands

## INTRODUCTION

Commonness is a relative concept and varies as global, local, relative and observed, or sample abundance (Preston 1948). It varies according to habitat and temporally. Many different factors that may determine rarity or commonness have been considered (Preston 1948). According to Grytnes *et al.* (1999), a species is defined as rare or common based on its abundance and extent of distribution; they have pointed out problems of defining rare and common species. Davidar *et al.* (1996) noted that rarity of bird species in the Andaman Islands is not because of external threats, but probably because of their intrinsic ecological requirements, biology, and limited size of the island.

The Andaman and Nicobar Islands are rich in avifauna, with more than 270 species reported from the islands (Sankaran and Vijayan 1993), of which 29% are endemics. Nineteen species were introduced to these islands in the early 20th century (Kazmierczak 2000; Lever 1987; Mohanraj *et al.* 1999; Sankaran and Vijayan 1993). Of these, only the Common Myna *Acridotheres tristis*, House Sparrow *Passer domesticus*, Indian Peafowl *Pavo cristatus*, Grey Francolin *Francolinus pondicerianus*, Blue Rock Pigeon *Columba livia*, and House Crow *Corvus splendens* now survive in these Islands. Some of these introduced species are believed to have caused disturbances to native bird species and other biodiversity.

This study was undertaken to identify the common bird species on human inhabited islands of the Andaman group, and to explore to what extent the introduced species have spread throughout the islands bird communities. Preliminary observations showed that the introduced birds have not been able to go deep into the Andaman jungles, such as Jarawa reserves, and are absent from large stretches of forest. However, many of them have successfully colonised human

habitations and the natural habitats near the habitations. Hence, we restricted our study to human habitations, and natural habitats near human habitations.

## METHODOLOGY

The study was conducted in eight human inhabited islands of the Andaman Island group (12° 30' N; 92° 45' E), namely South Andaman, Middle Andaman, Baratang, North Andaman, Ross Island, Little Andaman, Neil Island, and Havelock (Fig.1). Surveys were conducted from July 2008 to March 2010 employing line transect method (1km/1hr). A total of 188 transects were surveyed in six habitats: urban, village, disturbed forest, coastal, undisturbed forest near human habitations, and wetland.

Commonness of a species was calculated based on the observed or sample abundance and considering the number of detections of each species during the study (Preston 1948). To study introduced species, each bird species was accounted for separately in transects and their activities such as breeding, roosting, distribution, wherever possible, were explored. Available literature of each introduced species was also collated.

## RESULTS AND DISCUSSION

In all, 12,329 individuals of 127 species of birds were recorded during the study. Among the habitats, highest numbers of species (63) were recorded in wetlands and the lowest numbers (20) were recorded in urban areas (Fig. 2). Of the total wetland species, 24 were winter migratory waders. Based on their respective abundance, we considered 15 species as 'most common' (Table 1). Of these, the first two and the fourth species were introduced species: House Sparrow (19.8%), Common Myna (9.8%), and Blue Rock

Pigeon (7.9%) respectively. These three species were distributed in all the main islands of the Andaman Islands (Table 2). Some widely distributed bird species in the Andaman Islands are Common Sandpiper *Actitis hypoleucos* (60 detections on transects), White-breasted Kingfisher *Halcyon smyrnensis* (63 detections), and the endemic Andaman Coucal *Centropus andamanensis* (52 detections) with less abundance. Introduced birds of Andaman Islands were strongly associated with human disturbed area. Of the total observations, 39.2% of bird sightings were of introduced species. Among them House Sparrow (51.27%) was the most dominant (Table 2). Common Mynas and House Sparrows were the most successful introduced birds in these islands. Other widely distributed 'most common' native species include Red-whiskered Bulbul, Large-billed Crow, and White-bellied Swiftlet (Table 1), contributing more than 5% species abundance. A brief account of the surviving introduced species is given below.

### I. Common Myna *Acridotheres tristis*

The Common Myna was intentionally introduced by Colonel R.C. Tytler in Port Blair on South Andaman immediately after the settlement of a penal colony in 1858 (Lever 1987). Wood (1924) indicated that Common Mynas were released on Ross Island during 1880. Presently, free-ranging populations are established over most of the Andaman Islands. However, this species has not established well on large islands, such as Middle Andaman and Little Andaman.

Roosting areas of Common Myna in Andaman Islands were located in mangroves and vegetated sites in town centres and villages. Disturbed forests provide an excellent environment for mynas. In Port Blair, these species roost on

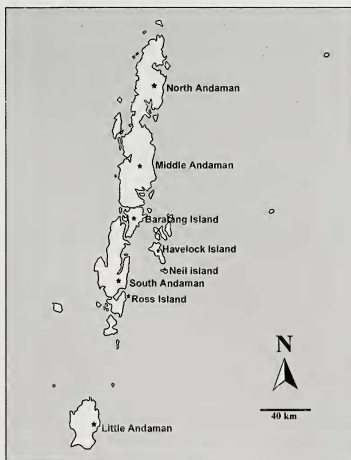


Fig. 1: Map of Andaman Islands showing surveyed islands

two or three trees located in the centre of the city and in mangroves near Sippighat. They roost communally with other species such as Red-breasted Parakeet *Psittacula alexandri* and House Crow. In Port Blair, roosting trees were shared by Large-billed Crow *Corvus japonensis* and House Crow

Table 1: Common bird species recorded in Andaman Islands from July 2008 to March 2010

No	Common Name	Scientific Name	Abundance (%)	Detections	Present in No. of transects
1	House Sparrow	<i>Passer domesticus*</i>	19.8	552	87
2	Common Myna	<i>Acridotheres tristis*</i>	9.8	528	95
3	White-bellied Swiftlet	<i>Collocalia esculenta</i>	8.6	259	112
4	Blue Rock Pigeon	<i>Columba livia*</i>	7.9	67	24
5	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	6.2	374	134
6	Jungle Crow	<i>Corvus macrorhynchos</i>	5.2	277	90
7	Red-breasted Parakeet	<i>Psittacula alexandri</i>	2.4	78	40
8	Lesser Sand Plover	<i>Charadrius mongolus</i>	2.3	20	10
9	Cattle Egret	<i>Bubulcus ibis</i>	2.0	50	26
10	Brown Shrike	<i>Lanius cristatus</i>	1.9	188	73
11	Common Redshank	<i>Tringa totanus</i>	1.9	29	18
12	Whimbrel	<i>Numenius phaeopus</i>	1.7	8	8
13	Lesser Whistling-Duck	<i>Dendrocygna javanica</i>	1.7	14	9
14	Red Collared-Dove	<i>Streptopelia tranquebarica</i>	1.7	35	26
15	Andaman Teal	<i>Anas albogularis**</i>	1.7	10	9

\* Introduced species, \*\* Endemic species

**Table 2:** Current distribution of six introduced bird species in Andaman Islands in 188 transects surveyed

No	Species	Present in No. of transects	Current distribution	% Among introduced species
1	House Crow	16	SA	3.92
2	Common Myna	95	SA, NA, BT, RI	24.4
3	Indian Peafowl	4	RI	0.55
4	House Sparrow	87	SA, MA, NA, BT, HV, NL, LA, RI	51.27
5	Grey Francolin	1	SA	0.08
6	Blue Rock Pigeon	24	SA, MA, NA, BT, HV, NL	19.8

Note: SA=South Andaman, NA=North Andaman, BT=Baratang, RI=Ross Island, MA=Middle Andaman, HV=Havelock, NL=Neil Island, LA=Little Andaman

*C. splendens*. Tsunami affected mangrove trees and coconut trees provide excellent nesting sites for Common Myna and Asian Glossy Starling *Aplonis panayensis* (a native species). In Andamans, Common Myna *Acridotheres tristis* mainly nested on the crown of dead coconut trees and mangroves (snags) in tidal wetlands and coastal areas. It also nested in buildings. This species has the potential to compete with other species such as parakeets and Asian Glossy Starling for roosts and nests.

## 2. House Sparrow *Passer domesticus*

The House Sparrow was introduced twice in South Andaman Islands during 1882 and 1895 (Lever 1987). Now they have spread to almost all the inhabited Andaman Islands along with human settlements. They nest on buildings, street lights, roofs of houses, and shutters of shops. These birds roost colonially in towns, villages, and in bushes located near wetlands.

## 3. House Crow *Corvus splendens*

The House Crows were intentionally introduced to Port Blair during 1862 and 1864 by Col. R.C. Tytler due to their scavenging habit, but failed to survive on these islands (Lever 1987). It is reported that House Crows reached Port Blair less than a decade back accidentally by ship and are currently restricted to Port Blair. The species shares feeding, nesting, and roosting sites with the Large-billed Crow. It may compete with the Large-billed Crow and other local species, but more information is needed to substantiate this.

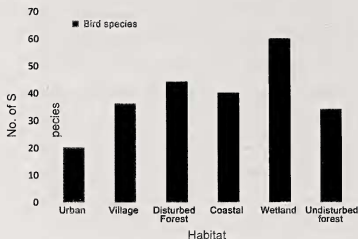


Fig. 2: Number of bird species recorded in each habitat of Andaman Islands along the 188 transects surveyed

## 4. Grey Francolin *Francolinus pondicerianus*

The Grey Francolin was introduced to South Andaman during 1890 and is seen only in Port Blair. During this study, only four individuals were observed at one location. The impact of this species on other fauna is unknown.

## 5. Indian Peafowl *Pavo cristatus*

The Indian Peafowl was introduced on Ross Island by the British in 1868. The species was decimated during the Japanese occupation (1942–43), but after the liberation of the archipelago, more were imported (Lever 1987). Currently, fewer than 10 birds survive on Ross Island.

## 6. Blue Rock Pigeon *Columba livia*

Blue Rock Pigeon were introduced to South Andaman and Car Nicobar in 1898 (Kazmierczak 2000; Lever 1987). The species has established well in the Andaman Islands, especially in Port Blair and Rangat. It lives in urban areas. Its impact on other species is unknown.

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